F 108-9(2)

G R S IX-5]

1892-93

Previous references.

mic 13 88
" 16-87
" 19 90
" 15 92

File No. 16

191 .

(mic)

Serial Nos.

Later references.

mic 105 16 IX 112

GENERAL AND REVENUE SECRETARIAT.

Serial Nos. 1 to 8

Major ~~Part~~ B for July 93

SUBJECT.

Insanitary Condition of the Cooper's Tank

W D 1250—GPB—30,000—28-1 19

Note for the Dewan

Before passing orders on the different points raised in regard to the sanitary arrangements in Cheerpett, I beg to know whether the Dewan is prepared to make a grant of Rs 10000 for improving the water supply of Cheerpett as recommended by Mr Lee. I am certainly for trying the plan suggested by Mr Lee, for I know, that even if we dig a number of wells, people will not resort to them or take the trouble of lifting water

the Revenue by
the entire cost is
considered by Govt.
I can easily find
funds for the cost
of letting it into
Cisterns.—

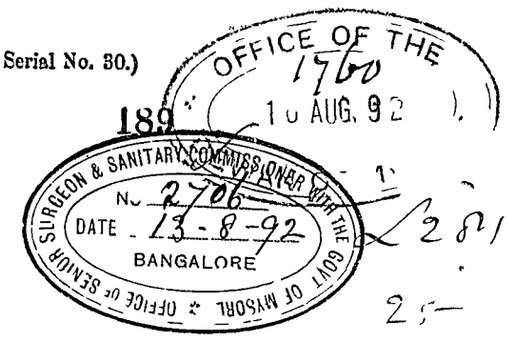
2. I also recommend
the remission
the ~~postponement~~ of
the small debts due
to Govt by the
Municipality.—

3. After I have
the Dewan's views
please in the matter
of the grant & the
remission of the debts
I shall pass orders
on all other points.

21/193

(General Serial No. 30.)

3



189

From

To

The Chief Secretary to the Dewan
of Mysore

Dated

Despatched

Received

Enclosures No Two

General No.
No.

In reply to

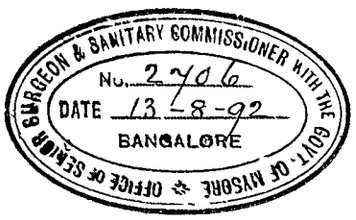
SUBJECT

Submitting letter from Hosk
apte Closepete regarding
the insanitary condition of
the place

Labour Municipal

References (to be entered only in the Dewan's Office).

To the Source No 3925-7
dt 10.9



To

The Chief Secretary to the
Government of Mysore
Bangalore

Sir,

I have the honor to forward in continuation of previous correspondence on the subject the enclosed letter from the Hospital assistant at Closepete regarding the insanitary state of that town in which Cholera is prevalent at present.

2 The Sanitary Engineer made an inspection and report on the condition of the place in 1889 but no action has been taken on the latter and it remains as unhealth

unhealthy and ill conserved

I have the honor to be
Sir
Your most obed servt
J. Pettenkofer
Senior Surgeon Major
Bengal Army

draft

Ref. to Mr. [illegible]
16-8-92

3926-7 9/12/92
L.7.108-92

Fn: 3

Read:- 26

Letter from the Senr. Surgeon dated 13th August 1892 No 2706 submitting letter from the Hospital Assistant at Choseyetta dated 12th Idem regarding the insanitary condition of the Choseyetta Town, where Cholera is prevalent. ~~etc etc~~

—•—

Order thereon

~~Copy of the above~~

The above letter with its enclosure is forwarded to the Dy Comr of the Baugalow Districts for his remarks and suggestions.

7/9/92 ZP
For Chief Secretary

To,

The Senior Surgeon

" Deputy Comr Baugalow Dist

with Senr Surgeon's letter

" etc enclosure for report

(General Serial No. 30.)

189

From

The Chief Secretary to the Dewan of Mysore.

To

Dated

Despatched

Received

Enclosures No.

General No.
No

(General Serial No. 30.)

1892/93

From The Dy Commissioner
Bangalore District

To

The Chief Secretary to the Dewan
of Mysore.

Dated 22nd October 1892

Despatched 24th October 1892

Received

Enclosures No. 4.

General No.
D No. 353.

In reply to Govt Pw: No 3926-7 Mis
dd 9-9-92 SUBJECT. L.F. 108

Reporting on the in-
Sanitary Condition of the
Closepet Town with sug-
gestions.

C.B. for Dewan 24/10/92

References (to be entered only in the Dewan's Office).

To H. Samaste No 1531-3
L.F-108 92
92/3/1
93

Red 25/10

Deputy Commissioner's
Office
Bangalore District
22nd October 1892
24 Q

To

The Chief Secretary to the
Dewan of Mysore

Sir

In reference to the
Proceedings of the Government no.
3926-7 M. 3 dated 9th September
L.J 108
1892, Communicating the Senior-
Surgeon's letter on the insanitary
condition of Closepet for my
remarks and suggestions, I have
the honor, while returning the
enclosures to the above proceedings,
to report as follows.

2. On a similar re-
presentation by the Senior Surgeon
in 1889, the Sanitary Engineer

was deputed to report

condition of the town. He submitted his report in December that year. His recommendations were

(1) To provide a pure water Supply. He proposed to bury a number of perforated cast-iron pipes, filled with polarite, in the bed of the Arkavati, connect them to a central point and conduct the water in Stone ware pipes to a well Sunk in the East bank of the river, from which to lift the water by means of a pump worked by manual labour into a cistern with taps

(2) To remove from the centre of population the offensive trades of oil & potteries and Stones

3) To improve domestic arrangements for breeding Silk-worms.

4) To close all privy wells.

5) To provide Efficient Surface drainage.

6) To prevent the occupation of houses in common with cattle.

7) To remove Ruined houses and walls.

8) To prohibit the burial of the dead amidst the living

(9) To divert the Sewage from the river and utilise it on a farm.

10) To provide Stone drains for taking away Sewage — and

cremental produce of the
tion.

3. The Government was pleased to sanction the alienation of the Government's Share of Mo-hatarfa for 8 years from 1890-91 and an advance of Rs 4000 — without interest and a further advance of Rs 10,000 with interest at 4 per cent — vide Govern-ment orders nos $\frac{7892-3}{900}$ and $\frac{8764-5}{604}$ dated 23rd September 1890 and 23rd October 1890, respectively.

4. In January 1891, the then Deputy Commissioner sent a copy of Mr. Lee's report to the Executive Engineer with

prepare the Requ

estimates". On receipt of the Government order referred to in the 1st paragraph of this letter, I first became aware of Mr. Lees' report and wrote to the Executive Engineer to find out what had been done by him In reply he has promised to send his Scheme by the 20th inst. through the Chief Engineer; but it has not arrived yet. I am writing again to remind him.

5. While writing to the Executive Engineer I also wrote to the Sub. Divisional Officer

and asking him to visit Closepet and report his views. I enclose a copy of Mr. Raghunatha Rau's interesting report. I shall next proceed to consider Mr. Lee's proposals.

6. Water Supply. Mr Lee himself says that "the System proposed for abstracting filtered water direct from a river is at present an untried one: But he urges that its Success is fraught with Such vital interest to towns Situated Similarly to Closepett on the banks of rivers, that a trial Should no longer be delayed". As the Sewage

of Expenses of Mr Raghunatha Rao condemns the above proposal and proposes the Sinking of a few wells in Suitable localities The town has a population of about 6,000 and the existence of a number of fresh water wells in different localities makes it probable that fresh water is available in most parts of the town at a moderate depth, — 30 to 40 feet. A well on the North-East of the Railway is reported to Supply water for a hundred householders. The town has one thousand and four hundred houses. I believe about ten

localities will provide an supply. This will cost about Rs 2,000 - I imagine my Lees proposal will cost several times as much and will further entail a continual cost of lifting

7. In the above paragraph, I have tried to present the question in its different as- -pects. This small municipality is like its Sister municipalities, in a chronic State of poverty It is not, I submit, fair to it that it should be burdened with the cost of an experiment which may turn out a fiasco.

But as pointed out by Mr. Lee the Experiment is fraught with vital interest and, I think, that in the cause of general Sanitation, the Government ought to make the Experiment at its own cost. In the meantime, if the Government agrees with me, I shall begin to provide a well ~~Supply~~. When a Sufficient Supply has been provided by some means or other, the use of the ordinary unfiltered river water for drinking should be prohibited.

8 Objectionable trades

There are only four potteries

I do not think that potteries are very objectionable. I would leave them undisturbed. Cows and sheep are not now slaughtered and butchers' meat sold within the inhabited area. Mr Raghu Natha Rau does not speak of stores for hides. If they still exist in the town, I shall have them removed. As regards "oil-boiling houses", if the trade is not very extensive, I do not think we need trouble ourselves much about them, as the harm resultant therefrom is not, in my opinion, so great as to justify our interference with the trade. It is to be remembered

encumbered that the prohi-
bition of the trade may cause
the ruin of the families engaged
in it

9. Silk-Trade. Mr. Lee recog-
nises the difficulty involved
in any action in reference to
the Silk trade. He would there-
-fore restrict the Supervision of
the breeding and reeling esta-
-blishments to a daily removal
of all debris by municipal
Sweepers, which is exactly what
Mr. Raghunatha Rau proposes;
but the latter Officer considers
the Expense beyond the ordinary
means of the municipality He
reports that the traders are
willing

head; but considering the difficulty of collecting a voluntary contribution, he suggests that the present cess tax be raised from 4 to 7Rs a year. This increase would yield about Rs90, the present income being Rs 116; while the extra expense my Raghunatha Rau proposes is 240Rs a year. The trade is reported to be very lucrative and the necessity for the extra expense arises solely from the unwillingness of the traders to allow the trade to be removed from within the town. Under these circumstances, the cost should think fall

on them wholly. But how this

should be done, I am not pre-

pared now in a position to propose - I

shall do so, however, very shortly

10. Mr. Lee proposes, -

further, that the Municipality

should provide suitable build-

ings for reeling Silk. This is,

however, hardly practicable, as

explained by Mr. Raghunatha Rao

11 - Privy wells. I would

draw the attention of the

Government to Mr. Raghunathan

Rao's remarks and suggestions

which I fully endorse

12 Surface drainage

drains have been

but they are reported to be on a higher level than the Street which therefore, in the opinion of Mr Raghunatha Rau, require to be raised. I shall however await the Executive Engineer's proposals.

13. Cattle Mr Lee's proposal is altogether impracticable. It is not attempted in large towns like Madras and Bangalore — much less can it be attempted in a place like Closepet where the prevailing conditions of life are rural and agricultural

2) Ruined houses and walls. I shall visit the place soon and adopt the best remedy. They must of course be cleared up.

15 Burial of the dead — Apparently there is but one burial ground in the town — a new one formed by Roman Catholics. If the burials are few and far between, I would not interfere with it. Otherwise I shall order its closure

16. Sewage Mr Raghu-natha Rau reports that there is very little of it. During my visit, I shall consider

question

17- The Government has already advanced Rs 4,000, of which more than Rs 2,500 have been repaid. Mr. Raghunathes Rau wants the balance to be remitted, which I am not prepared to recommend.

I have the honor to be
Sir
Your most obedient Servant

Mir Shujaat ali
Deputy Commissioner

Brief report about the San-itation of Closepet Town, having regard to Mr. Lee's report on the improvements to be effected and to the practical side of the question

2. There are about 1400 houses with a population of, in round figures, 6,000 of whom 2000 are Mohamedans. The situation of the Town is gradually sloping towards the Arkavaty on whose Eastern bank it lies. It is divided into Northern and Southern blocks by the Bangalore and Mysore high Road. The Talk Cutcherry and the Railway Station are situated in the latter portion.

3. The Chief source of insanita-tion as pointed out by Mr. Lee arises from Silk trade, drinking the river water and from the defective System of Sewage &c. Consequently the Town is periodically visited by Cholera, dysentery, fever &c of a lingering nature. This year

to 29th August. I were 100
attacks resulting in 69 fatal
cases of which 35 were amongst
Mohamedans.

4. The practicability of
effecting improvements are con-
sidered in the following few lines

5. The Town derives its im
portance from silk trade, which
is carried on, on an esclusive
scale, giving employment to almost
the entire population, so much so,
that there is scarcity of labor
for any other kind of work. It is
also a means of great profit for
merchants.

6. There are 100 silk reels, which
gives work for 300 laborers at the
rate of 3 men for each reeling
instrument. The rearers of silk
worms require Mulberry leaves every
day. About 500 people of the Town
are employed in plucking leaves

on the Mulberry gardens. A large number of laborers is also employed by the owners of Mulberry gardens in digging, planting, watering weeding, &c.

7. From 1½ to 2 Seers (weighing 26 Rs: each) of Silk, valued at Rs: 5-8-0 is reeled up every day by each charky. The 100 reels in the Town yield about 175 Seers = 4 Maunds. and 15 Seers valued at Rs: 5-5-0/. Besides this, the silk produced in the Surrounding Villages finds market at Closepet. This quantity is not less than that produced in the Town. Thus the daily average of Silk trade in the Town may be calculated at 8 Maunds valued at Rs: 1200/, taking into Consideration bad and good Seasons alike. The value of Silk escported, monthly is Rs. 36000/. At this rate the annual value, in round figures is 5 Lacs of Rupees.

8. There are about 10 or 12

day and export it Madras, Dharwar, Bellary, Coombakonam, Salem, Madura and other places.

9. The Caterpillars when they become ripe sometimes escape from their webs. If so, the silk becomes wasted. This is exported to England as wastage at the rate of 10 Rs: a maund. In England silk is taken out of this wastage.

10. Most of the reelers buy ripe Cocoons at the rate of Rs: 10 a maund and to prevent the escape of the worms from the web, they heat the Cocoons with steam, by placing them in a basket over a pot containing boiling water. The Cocoons are then removed to the reeling shed and boiled in an open kettle. and silk is reeled from the webs, while they are being boiled

11. The heating of the Cocoons with steam is done in home steam is

the members of the Reelers'
Silk is then reeled
in an Open shed either thatched
or tiled. The dimensions of the
sheds depend on the number
of reels at work in each.
12. I have been describing
the above particulars of the trade
to draw attention to the fact
that the very subsistence of
the Town depends on it and the
inadvisability of placing any
Restriction whatever on the plea
of sanitary improvements.
13. The chief evil of the trade
is from the accumulated wastage
viz: the boiled worms and the water
in which they are boiled. If
these are not Removed from the
Reeling sheds they give out the
most offensive stink in 3 hours,
fouling the surrounding atmosphere
14. In the interests of the trade,
it is not desirable to remove the
Reeling sheds beyond the limits

with the economy labor
debarring the Gosha females
and children from work.
Every bit of the Cocoon is looked
upon as property and is therefore
properly watched now the esciting
reeling sheds being close to the reelers
dwelling houses. This cannot
be done if the sheds are removed
far away. The process requires
a good quantity of water. The
proposed sheds are therefore to be
built close to the river and
then the river water will be-
-come worse than it is now —
Further a decent accommodation
for 100 Chowkees cannot be built
under Rs. 5000/.
15. The only possible way of
removing the nuisance, i.e the
heaps of the dead worms and the
foul water is by keeping

Cart and a Sweeper
solely for purpose. The
wastage should be removed
twice a day from every reeling
shed. The present straitened
state of the Municipality cannot
afford to maintain the Establish
-ment. I convened a meeting
of the reelers and the merchants
in silk trade. They have stoutly
opposed the measure of removing
the reeling sheds from the Town.
They have consented to maintain
a Cart and a Sweeper at the cost
of 20 Rs. a month. They have exe-
-cuted a Muchilika promising
to pay 4 Annas a reel per month.
But I do not think that this will
last long. It is difficult to col-
-lect every month 4 Annas
from every reeler. I should
therefore propose increasing the
reel tax from 4 to 7 Rs. per
annum in this Town. This
can be done without much

opposition, considering the profit they make.

16. Now I come to the subject of drinking water. Arkavaty is in floods only for a very short period in the year and that too at different times during the Rainy Season. The flow is in its lowest ebb during the greater part of the year and therefore apt to be dirtied. It is an outlet for the Sewage of the Town. All Kinds of washings, the Rain water flowing from 4 grave yards in the Town are emptied in it. There are Mulberry Gardens on both sides of its bank and the gardens well manured. The Rain washes the manure into the River. Carries Large Quantity of excreta, which the Inhabitants are accustomed to throw on the banks, also washed down deposits

down into the River. The wa

is therefore condemned from every point of view. With all this, the inhabitants assert that they are accustomed to drink the River water and that they found it healthy.

17. To filter the river water by fixing perforated iron pipes filled with filtering substance, as suggested by Mr. Lee is I suppose very costly and there is no guarantee of keeping the River water pure, lower down the filter. Another suggestion of introducing pipe water from Kothipoor Tank a mile from the town, is also not desirable, on account of great cost and insecurity of constant supply. The Tank itself is very small being quite dry for more than three months during the

year. The bund and the Cody must be raised to have a large storage of water in the Tank, provided that there is large catchment area.

18. In my opinion, the sinking of 4 or 5 drinking water wells in suitable places in the Town at the cost of Rs: 200/- each, is all that is needed, in case the inhabitants be persuaded to use the well water for drinking purposes.

19. Drains and Streets. Privy &c. — The Sewage is not considerable in the Town. The liquid portion being absorbed in the ground here and there. Although V shaped drains are built up in all the main streets, they are at present useless the surface ground of the streets is 1 or 1½ feet lower than the

drains. The fact is that no fresh earth has been put in the streets, perhaps for half a Century. The rain water flows in streets cutting them here and there instead of in the side drains. The streets must be raised and barrelled. The lanes also require gravelling. All this work will cost about Rs. 2500/, at least, for the present 20. Even in Bangalore, it was found impracticable to introduce, generally, open surface privies instead of the privy pits in the back yards of private houses. The nuisance on this score in this Town is much less, as the men are used to go to the river sides to stool. It is only the women and children that go to the pits in the back yards. This

less the Municipality is pre-
pared to entertain 6 Scavengers
and 2 carts for the removal
of the night soil at the cost
of 75 Rs: a month. ie nearly
900 Rs: per annum, for the
Scavengers are to be imported
from Bangalore.

21. It is only possible minimise
the nuisance by building half
a dozen Public privies and
entertaining 1 Cart and 2
Scavengers - The building of
6 privies may cost 600 Rs: The
Cart and the Scavengers Rs:
30/ a month.

22. The slaughter houses
and butchers' Stalls have been
since removed to a large plan
in the Southern extremity of
the Town - There are only four
Mutton Shops and 2 beef shops
in the

the Town. Three or four sheep and a Cow are killed daily. A small piece of ground for killing sheep and another for Cows should be walled round and 6 shops to be built at the cost of Rs. 300/- Each stall may pay a rent of 4 annas a month.

23. The soil is peculiarly fitted for the growth of rank vegetation. Every vacant bit of ground, whether it is a back yard, open ground or a building site is overgrown with rank vegetation. It is impossible to erradicate it.

24. The following is an extract from this years Budget of the Municipality.

Revenue	Rs
Mohatarfa	1199-12-
Shop tax	812-
Silk reels	116-
Cart tax	496-
Sale of manure &c	19-8-
	2641-4-

Expenses.

	Rs-as-p
Payment in liquidation of the loan of Rs: 4000/. from the Government	1320-10-0
Establishment	577-0-0
Lighting.	184-0-0
Education	150-0-0
Midwife	60-0-0
Head Office Charge	90-0-0
Sundry rewards for killing snakes, dogs and scraping out pits in river beds &c.	99-10-0
Pay of Pen and purchase of implements &c.	150-0-0
	2631-4-0

25. It will be seen from the above, that no money whatever is available either for original works or repairs.

26. It appears that there is still a balance of Rs. 1497-8-10 due to Government - I would

recommend the remission of this balance in favor of the Municipality with a grant of Rs: 25-00 to enable the Municipality to commence the improvements at once. The Municipality will then save annually Rs: 1330-10-0 (the amount which is now being paid to the Government in liquidation of the debt) which will be advantageously applied to the improvements recommended

(Signed) G. Raghunatha Rao
Sub Division Officer

16th September 1892

"Copy"

To
The Secretary
Dy Commissioner
Bangalore District

22 Oct

REPORT

ON THE

Sanitary requirements of the Town of Closepet to ward off attacks of Cholera.

SANITARY ENGINEER'S OFFICE,

Mysore, 15th December 1880.

In letter No. 1280, dated 30th November 1880, from the Senior Surgeon and Sanitary Commissioner with the Government of Mysore, the Dewan was informed that Cholera had again occurred at Closepet, for the second time in this year, and the advisability of getting the Sanitary Engineer to visit and report on the requirements in a sanitary point of view, again urged.

The order of the Dewan, to submit early proposals for the improvement of the Station, was received with Camp No. 562, dated 18th October 1880, from the Chief Secretary, and I visited the town on the 5th December, immediately my work at Mysore permitted me to do so.

Outbreak of Cholera in September and November 1880.

I found, that from the 26th September to the 14th November—50 days—there were 155 cases of Cholera, with 73 deaths, among a population of 5,171 souls. The seizures were therefore nearly 31 per 1000, and the deaths 15 per 1000, a death-rate which appals when compared with 17 per 1000, the average mortality of England and Wales in 1888.

The majority of these cases occurred in Trooploya (49), Nalbandvadi (36) and Bargiri (31), which localities are all situated at the south end of the town (vide sketch plan); while the north was comparatively healthy.

General Description.

The town of Closepet, which is nearly 2 miles from north to south and about half a mile at its broadest part, stands tolerably high, well raised above the surrounding ground, and slopes gently towards the river to the west and south-west. It lies between the line of Railway from Bangalore to Mysore on the east and south-east, and the river Arkavati on the west and south-west. From the Railway Station on the east, a broad street called Railway Station Road, stretches along the centre of the town away to the river, which is bridged where the road from Madras to Cannanore crosses it. All the other east and west streets also descend towards the river, and are more or less narrow where they pass through the gardens which form a belt between the river and town the whole way.

From north to south a good broad street runs the length of the town, and other streets tolerably regular run parallel to it, both on the east and on the west. The streets, with the exception of the Railway Station and Cannanore roads, are not metalled, but they are very regular and sufficiently broad. The flood water drainage requires improvement.

The soil is gravelly and the country around the town is composed of rocky hills and jungles; but the hills do not in any way intercept the prevailing winds which sweep freely through the principal streets. Jungles occur at the very outskirts of the town, and the river, which is the principal source of water supply, not only passes through forests, but is also fed by damp and wooded ravines productive of malaria.

Public Health.

The people visit the jungles in large numbers daily for collecting railway fuel, in which a very extensive trade is carried on. These people, as well as the ordinary residents, are very subject in the cold season to malarial fever and to enlargement of the spleen. Diarrhœa and Dysentery are said to be very prevalent in May and June, which is the usual period of visitations of Cholera, though it often returns in September and October should there be unusually wet and damp weather in those months, as in the present year.

Closepet, once a town of importance and a Station for two Regiments and a Battery of Artillery, is now for the greater part made up of ruined houses and deserted building sites, which afford convenient shelter for committing nuisances and storing trade and house refuse in the heart of the inhabited area. The sites of some of the houses, more especially in Nalbandvadi and Bargiri,—where cholera was the most prevalent this year—are reported to be damp during rains, as at the time of the recent cholera visitation. These houses are built on the lower slope of the high ground extending from the Railway Station and are the nearest on the south to the river. The soil is generally gravelly, but in this particular locality it appears to have a thin coating of clay. The most wretched houses are situated here, as well as the greatest number of ruins. The inhabited houses are so scattered among the ruins as to make the streets very straggling and almost impossible to conserve. This end seems to contain the oldest portions of the town, as here occur the names Bargiri (Infantry-lines), Nalbandvadi (Farrier-lines), Troop-loya (Cavalry-lines), Kumadan-gali (Commandant's street), and Tipghan-gali (Artillery-lines). It is now over 50 years since the troops were removed from Closepet.

Houses.

The sewage, as is usual with towns built on the banks of rivers, is drained into the Arkavati, and owing to the way in which the town hugs the river,—no part of it being very distant from the banks,—the outfalls are very numerous and all of them discharge into the stream within the limits between which the people take their drinking water, so that what was poison to inhale is returned as poison to drink. The few stone drains in existence are very defective and have no means for flushing. Some few of them, apparently very recently constructed, appear to have been laid to improve the margins of the road rather than to take away sewage, as they are in the upper portions of the town where no sewage is discharged into the street. The ditches that carry off flood water require grading.

Drains.

There are neither public *latrines* nor private privies—the Railway Station buildings and the houses of the chief officials excepted—but cesspits are in general use in every house; and they are never emptied nor are their contents ever disinfected. The gases from them,—which are identically the same as the sewage gas in covered drains which extinguishes life with the rapidity of the lightning stroke,—surround the inamates continually whether awake or asleep. with their fœtid pollution and poison. In their diluted condition, as they rise from each pit, they do not kill, and though their effects are so slow as to elude ordinary observation, they form the most congenial medium for the multiplication of epidemic germs and operate in reducing the chances of life.

Cesspit Privies.

The Muhamodan population are mostly employed in the rearing of silk worms and the reeling of silk, for the latter of which there are 72 establishments. Though this industry has within the last few years recovered slightly from the great depression it had long suffered, owing to disease decimating the worms, there is said to be at the present time much poverty among these people The other trades carried on within the limits of the town are (1) oil pressing, (2) potteries, (3) storing raw hides and skins for export, and (4) slaughtering cattle for butchers' meat, all of which come under the definition of offensive trades.

Trades and Occupations

The agricultural population is chiefly employed, during the non-cultivating season, in collecting and carting fuel from the jungles for the Railway engines.

There are 8 sweepers for this long straggling town, of whom 4 are women. There are no scavengers and no rubbish carts. The cleanly condition of the streets and lanes, at the time of my inspection, was certainly very creditable to the authorities in charge. With this small establishment of sweepers it could not be expected that any attempt would have been made to remove the accumulations of years in the cesspits backyards of houses, and ruined enclosures. These therefore continue to pollute the air and poison the well-springs.

Conservancy

A very active source of danger to health arises from the silk producing trade. The rearing of the worms is carried on by women, who by Moslem usage are gosha The ill-ventilated dark rooms in which they are thus compelled to work, the accumulations of diseased worms, decaying leaves, and festering dejecta, which are concomitants of their trade, and which by their habits of isolation they are obliged to deposit within the enclosure walls of their dwellings, all tend to surround the inmates with an atmosphere which the cholera germ has the faculty of kindling into powers of epidemic destruction.

In-sanitation.

The reeling of the silk is attended with still greater evils. The hot water in which the cocoons are dipped become so highly impregnated with animal matter as to cause a great nuisance where there is no drain to carry it away; and the heaps of dead worms, which are thrown into the nearest pit or ruined house, add greatly to poison the air, so that wherever any one of the 72 silk reeling *"churkies"* is situated, the whole neighbourhood is invaded by the sickening odour of decomposing animal matter. In such an atmosphere, which forbids the breath to be drawn freely, all the springs of life are exhausted and the workers, who from long habituation have come to view these insanitary conditions as inseparable from their trade, have such enfeebled constitutions as to render them ready victims to any contagion that may occur.

The slaughtering of neat cattle and sheep by butchers, in yards surrounded by dwelling houses, the absence of carts for removing the disgusting and sickening products of their trade, and the storing of raw skins and hides within the town, are all equally fertile sources for the causation of disease.

The broiling of oil seeds for extracting the oil causes an offensive odour, and the storing of the waste, to be used as fuel, causes a greater nuisance.

The opening out of a new grave yard by the Roman Catholic community in one of the best sites of the town, on a higher level than the wells, and in a most conspicuous position in reference to the line of Railway, is to be regretted. As this ground will become very valuable on the development of the town, which is sure to follow the adoption of improved sanitary measures, it will probably not require much persuasion to remove this grave-yard.

Water-supply.

The general supply of water is taken from the river Arkavati; but about a hundred house-holders draw their water from a well, on the north-west of the Railway-Station close to the semaphore, which is fed by springs supposed to issue from the Kotepur tank situated still further north. It is reported that none of these families suffered this year from cholera, and that, as a rule, they enjoy better health than those who drink the river water, which is popularly credited with being the chief cause of fever and enlarged spleen,—diseases very prevalent in the town.

There are 280 wells of moderate depth,—about 30 to 40 feet,—said to yield brackish water. Their water level is higher than the bed of the river, and, therefore, there is the presumption that they are fed by percolation through the cesspit-riddled and excrement-sodden soil of the town.

The river bank next to the town is said to be visited by $\frac{3}{4}$ of the entire male population every morning, and the river stream used by them for ablution after defecation. The dhobying of dirty clothes, the bathing of dirty bodies, the washing of cattle are all carried on here as well, and the town drains are constructed to discharge into the river within the same limits, and it is from this part of the river that the daily supply of water is taken. On the opposite bank, close to the margin of the river, lies an extensive Muhamodan grave yard, the infiltration of the rain-fall through the soil of which, gravitates into the river and adds its impurities.

These facts clearly prove the river water to be very impure, and though it is generally unwholesome to drink such water, it is during visitations of epidemic cholera that it becomes immediately perilous to life.

Cholera.

The general history of this disease establishes its preference for particular localities and its avoidance of others. It is well known to have infinite preference for localities that are fœtid with organic impurities; and that, while it rages where there are definite sanitary evils, it touches no healthy spot. The physical peculiarities which most favour its local settlement are excrement-sodden earth, excrement-reeking air, and excrement-tainted water. The personal conditions which enhance the risk of infection are extremes of heat or cold, excess or privation, exhaustion by physical or mental fatigue; and all states of langour, depression and debility.

Cholera-contagion.

The introduction of Cholera-contagion by human intercourse is different from infection by measles or small-pox. The multiplication of poison in the latter diseases takes place within the human body; and wherever human beings come in contact of one another, the susceptible person takes the infection. For the diffusion of the contagion of cholera, foulness of medium such as air or food or water seems indispensable.

According to Professors Pettenkofer and Acland, it would seem that during cholera periods the immigration of persons suffering diarrhœa has been followed by outbreaks of cholera

in places previously uninfected; and this fact is ascribed to an infective influence exerted by the fœces of such persons.

Diarrhœa, however produced, is most likely to invite an attack of cholera at times when that disease is epidemic; but this condition is just as amenable to treatment as the collapse of cholera is utterly the opposite. Its immediate arrest is therefore a consideration of vital importance.

The people, from their belief that the mischief to be wrought by cholera lies is some fixed inflexible fate, are very likely to neglect all premonitions of the disease, and thus incur much unnecessary danger. It is therefore very necessary, during the prevalence of the epidemic to organize systematic house to house visitation, for discovering and treating among the poor all premonitory symptoms of the disease.

Conditions of Safety.

The local conditions of safety are:—(1) To provide a pure water-supply; (2) to remove from the centre of the people all trades and occupations which taint the atmosphere with materials of organic decomposition; (3) to improve the domestic arrangements for breeding silk worms; (4) to close all privy-wells; (5) to provide efficient surface drainage; (6) to prevent the occupation of houses in common with cattle; (7) to remove such ruined houses and walls as are irremediably hostile to health; (8) to prohibit the burial of the dead amidst the living; (9) to provide stone drains for taking away sewage, (10) to divert the sewage from the river and utilize it on a farm; (11) to provide means for all excremental produce of the population to be promptly and thoroughly removed, so that the whole inhabited area, in its air and soil and water, shall be absolutely without fœcal or organic impurities.

Precautionary-Expenditure.

The works indicated above involve time and expenditure to carry into execution, and, therefore, in view to any visitation by cholera within the next six months, precautions should be taken for restricting, by palliative and temporary expedients, the ravages of the disease. The precautions to be taken against a recurrence of the disease appear to be —first, to prevent the entrance of contagion; secondly, if it be present, to annihilate, as far as may be possible, the circumstances which favour its spread; and thirdly, to bring into personal relation with the sick or dead, as attendants or otherwise, only persons who have acquired an insusceptibility to the disease by having already once taken it. The means of giving effect to these several expedients will be discussed under the head of

RECOMMENDATIONS.

I. The supply of pure water is of primary consideration. The river Arkavati affords a convenient and perennial supply but under existing sanitary conditions it is rendered unwholesome. The question for consideration is therefore, whether this water can be rendered wholesome, and, if so, how?

At Acton, according to the report of Sir Henry Roscoe, where the effluent of the sewage is filtered through *polarite*, the effect is said to be singular, "as the *polarite* appears to be unchangeable, at least no alteration in its efficiency has been found after 14 months use, and a longer experience elsewhere is stated to give the same results. The explanation of the action of *polarite* is, that it liberates from its microscopic pores large volumes of oxygen which attack and destroy organic impurities. It is also remarkable for its entire freedom from rusting and caking." The best filtering medium, therefore, for a water contaminated by sewage and molecules of excrement, as that in the Arkavati, appears to be *polarite*, a material readily procurable from Bombay

It is proposed to bury a number of perforated cast-iron pipes, filled with *polarite*, in the bed of the Arkavati, at such depth as the sand will permit, connect them to a central point and conduct the water that infiltrates through the *polarite* packing in stone-ware pipes to a well sunk in the east bank of the river, below the town. The bottom of the well will be at such depth below bed of river as to admit a free flow of the filtered water, and the steining and sill of the well will be built in Portland cement to cut off land springs. The system proposed, for abstracting filtered water direct from a river is at present an untried one, and its success is fraught with such vital interest to towns situated similarly to Closepet, on the banks of rivers, that a trial should no longer be delayed. On its proving successful, I would advocate the construction of a cistern with taps, as near the town as the rise in the ground will permit, and lifting the water into it by means of a chain pump (having no leather), worked by manual labour. This would remove the objection to dip wells from their liability to being fouled by dirty vessels being dipped into them. The arrangement proposed is shown in the sketch plan accompanying.

II. There are 20 oil boiling houses, 4 potteries, and 3 stores for hides. The removal of these to the outskirts of the town should be carried out at once. There are but a few cattle slaughtered daily, and therefore no building is required for the operation, an open air enclosure surrounded by a hedge, and planted with a few branches of some quick growing tree would meet the requirements of the butchers. These trades should not be placed in the direction of any of the prevailing winds as they pass on to the town.

III. Any action in reference to the silk trade is one of extreme difficulty. On it depends the prosperity of the town, and however desirable it may be on Sanitary grounds, any measure that hampers it in the least is likely to be resented by the people as an irrational derangement of their trade. I would therefore restrict the supervision of the breeding and reeling establishments to a daily removal of all debris by Municipal sweepers.

The Municipality should, however, supply suitable buildings before long, in two or three suitable localities, for reeling silk. By this means an improvement in the system might be introduced, in addition to procuring better sanitation.

IV, V, VI and VIII of the conditions of safety, as laid down in the body of the report, call for no special remarks. The Municipality can deal with them without any special agency.

VII. The town is very straggling. Its conservancy is therefore both expensive and difficult. In removing ruined houses advantage should be taken to cut off the continuity of the rows of houses, so as to divide the town into three or four detached blocks. This might be effected with very little expenditure.

IX & X. These refer to construction of drains, diversion of sewage and utilization. These works and the filtering-well require engineering assistance and in order to secure success they should be entrusted to the Special Improvements Division.

XI. Refers to ordinary conservancy effectually to be carried out.

The precautions which the Municipal President might immediately initiate, pending orders on this report, are:—

(1) To institute strict supervision over strangers coming into, or passing through, the town.

(2) To destroy by fire daily all rubbish, ordure &c., collected at Cart-stands, Chattrams and halting places.

(3). To set apart places or a field, not draining into the river, distinctly marked by stones or mounds, for people to resort to for purposes of nature, and to employ scavengers to cover the deposits with fresh earth, or to collect and bury them daily.

(4). To look after the security of existing supplies of water, and to remove all risks of pollution, as far as may be possible.

(5). To fill in with fresh earth cesspit-privies in proximity to wells or sleeping apartments, and to close such wells as may be suspected of sewage contamination.

(6) To disinfect all cesspits that cannot be closed, and to repeat the process at intervals until their final removal.

(7). To clean and lime-wash houses in a filthy or unwholesome condition, and to supply lime gratis to the poor for white-washing their houses.

(8). To boil water for drinking purposes during epidemics.

(9.) Filth and foul-ground should not be stirred up during prevalence of disease, but spread over with quick-lime or a layer of charcoal and covered with clean fresh earth brought from outside the town. The house well should be closed and water brought from a distance.

(10.) A place should be provided for the isolation and treatment of infectious diseases, for such persons who have not proper accommodation in their own houses.

(11) A house to house medical visitation during prevalence of the epidemic, in view to treatment of the disease while still amenable to medicine, and to suppress in detail those several causes of the disease which arise in individual neglect.

An immediate grant of 10,000 Rs, or less than 2 Rs. per head of the population, would be sufficient for the improvement of the water supply, drainage, and general conservancy on the lines indicated. A Government that so recently spent 80 lacs to save its starving population, would surely not withhold 2 Rs. per head for staying the progress of epidemic disease lessening the death-roll of an important section of its working population, and sparing some tears of widowhood and orphanage.

Sanitary Engineer,
Mysore Public Works Department.

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the 7/11/92

Read a letter from
the Dy Comr. of Bangalore
dated 22d October 1892
No. 353.
(Here print in full)

Order thereon! — Considering the
sanitary requirements of
Closepett and the urgency
of immediate action
the Government are —
pleased to sanction from
Provincial Funds a
sum of Rs 10.000 for the
trial of the experiment
of conducting the water
of the Arkavadi river
to some convenient
place near the village

mut
16/11/92

R
L 181°

15301—3
C.T. 1.8.92.
R 20/3/93

From DC Bangalore for
1040 Q 21.4.93 L 2259
From Consulting Engineer
568 Q 6.5.93 L 2460
From Saint Engineer
648 Q 31.5.93 L 2797

pipes filled with polarite
The Sanitary Engineer is
requested to make the
necessary provision in his
edget for 1893-94, and
commence the work as soon
as possible, the estimates
being previously forwarded
for approval. He is also
requested to report without
delay the probable
annual cost of lifting
the water into the cistern
by means of a chain or
like pump having no
leathers.

2. The Government
are also pleased to
remit the balance

of the advance (Rs 1500
made to the Municipality
referred to in the 17
para of the Dy Comrs
letter

3 The Government
agree with the Dy Comr
that nothing need be
done at present with
the potteries or oil boil
ing houses within the
Town, but the storing of
hides excepting in
specified localities
must be prohibited
after due notice

4. Arrangements
should be made
forthwith for the daily
removal of all debris

The establishment recommended by the Dy Comr in his letter dated 27th January 1893 No 696 may be allowed entertained by him on the salaries noted in the margin*

* 4 Sweepers on Rs 3 per mensem
1 peon on Rs 5-8-0

if the work cannot be given out on contract as suggested by Govt in their Proceedings of 18th February 1893 No 64.

To meet the cost, the Dy Comr is authorized to raise the rent tax from 4 to 7 Rs a year

5th The Municipality need not undertake

to provide any buildings for reeling silk

6. The Government are of opinion that the use of privy pits in back-yards should be stopped as soon as possible. The Municipality is authorized to employ 2 carts and 6 scavengers to remove the night soil at a cost not exceeding Rs.50 per mensem.

7. The other points noticed by the Dy Comr. do not require immediate orders

8 The Govt. observe that the annual

according to the Bu
for 1892-93 is Rs 2717
and the annual expenses
inclusive of the cost of
the ordinary Public works*
but exclusive of the sum
provided for the repayment
of Govt. loan (Rs 1334)
which has no longer to be
made, is Rs 1682. Thus,
there is a balance of
Rs 1035 for the improvements*
proposed in the preceding
paragraphs. When water
brought near the
Town an additional
water tax will have to
be imposed for the cost
of lifting water. Meanwhile

* Road repairs — 137
Drains — 50
Reserve — 20
207

* Cost of removing
debris — 214
For removing
night soil, &c 90
304

the Dy Comr. is requested to revise the house tax and see how far the annual income may be improved. The sale of manure removed by scavengers is sure to add to the receipts

10/3/93

Issue
10/3

Rec'd 20/3

20/3/93

To the Dy Comr Revr Distt

To the Sanitary Engr through the Chf Engr

Issue as per
Hon Secy

Sis. issued on 20/3/93

1893.

GOVERNMENT OF MYSORE.

LOCAL BOARDS BRANCH—MUNICIPAL.

PROCEEDINGS.

Dated 20th March 1893.

No. 15301 3
L. F. 108-92.

Sanctioning Rs. 10,000 from Provincial Funds for the trial of the experiment of conducting the water of the Arkavati river to some convenient place near Closepet.

Mysore Govt. O. Press, Bangalore — 4-93—120.

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(32)

Proceedings of the Government of His Highness the Maharaja of Mysore, (Local Boards Branch—Municipal),—dated 20th March 1893.

READ :—

The following letter from the Deputy Commissioner of Bangalore, dated 22nd October 1892, No. 353 :—

In reference to the Proceedings of the Government No. 3926-7—L. F. 108, dated 9th September 1892, communicating the Senior Surgeon's letter on the insanitary condition of Closepet for my remarks and suggestions, I have the honor, while returning the enclosures to the above proceedings, to report as follows :—

2. On a similar representation by the Senior Surgeon in 1889, the Sanitary Engineer was deputed to report on the condition of the town. He submitted his report in December that year. His recommendations were—

(1). To provide a pure water-supply. He proposed to bury a number of perforated cast-iron pipes, filled with *polarite*, in the bed of the Arkavati, connect them to a central point and conduct the water in stoneware pipes to a well sunk in the east bank of the river, from which to lift the water by means of a pump worked by manual labor into a cistern with taps.

(2). To remove from the centre of population, the offensive trades of oil-boiling, potteries and stoves for hides.

(3). To improve domestic arrangements for breeding silk-worm.

(4). To close all privy wells.

(5). To provide efficient surface drainage.

(6). To prevent the occupation of houses in common with cattle.

(7). To remove ruined houses and walls.

(8). To prohibit the burial of the dead amidst the living.

(9). To divert the sewage from the river and utilise it on a farm.

(10). To provide stone drains for taking away sewage, and

(11). To remove promptly all excremental produce of the population.

3. The Government was pleased to sanction the alienation of the Government's share of Mohatarfa for 8 years from 1890-91 and an advance of Rs. 4,000 without interest and a further advance of Rs. 10,000 with interest at 4 per cent. *Vide* Government orders Nos. 7892-3—900 and 8764-5—604, dated 23rd September 1890 and 23rd October 1890, respectively.

4. In January 1891, the then Deputy Commissioner sent a copy of Mr. Lee's report to the Executive Engineer with a request "to prepare the required estimates." On receipt of the Government order referred to in the 1st paragraph of this letter, I first became aware of Mr. Lee's report and wrote to the Executive Engineer to find out what had been done by him. In reply he has promised to send his scheme by the 20th ultimo, through the Chief Engineer, but it has not arrived yet. I am writing again to remind him.

5. While writing to the Executive Engineer, I also wrote to the Sub-Divisonal Officer sending him a copy of Mr. Lee's report and asking him to visit Closepet and report his views. I enclose a copy of Mr. Raghunatha Rao's interesting report. I shall next proceed to consider Mr. Lee's proposals.

6. *Water-supply.*—Mr. Lee himself says that "the system proposed for abstracting filtered water direct from a river is at present an untried one." But he urges that "its success is fraught with such vital interest to towns situated similarly to Closepet on the banks of rivers, that a trial should no longer be delayed." On the score of expense, Mr. Raghunatha Rao condemns the above proposal and proposes the sinking of a few wells in suitable localities. The town has a population of about 6,000 and the existence of a number of fresh water wells in different localities makes it probable that fresh water is available in most parts of the town at a moderate depth, 30 to 40 feet. A well on the north-east of the Railway is reported to supply water for a hundred householders. The town has one thousand and four hundred houses. I believe about ten wells in different localities will provide an ample supply. This will cost about Rs 2,000. I imagine Mr. Lee's proposal will cost several times as much and will further entail a continual cost of lifting.

7. In the above paragraph, I have tried to present the question in its different aspects. This small Municipality is, like its sister Municipalities, in a chronic state of poverty. It is not, I submit, fair to it, that it should be burdened with the cost of an experiment which may turn out a failure. But as pointed out by Mr. Lee the experiment is fraught with vital interest and, I think, that, in the cause of general sanitation, the Government ought to make the experiment at its own cost In the meantime, if the Government agrees with me, I shall begin to provide a well supply. When a sufficient supply has been provided by some means or other, the use of the ordinary unfiltered river water for drinking should be prohibited.

8 *Objectionable Trades*—There are only four potteries I do not think that potteries are very objectionable. I would leave them undisturbed. Cows and sheep are not now slaughtered and butchers' meat sold within the inhabited area. Mr. Raghunatha Rao does not speak of stores for hides. If they still exist in the town, I shall have them removed. As regards "Oil-boiling houses," if the trade is not very extensive I do not think we need trouble ourselves much about them, as the harm resultant therefrom is not, in my opinion, so great as to justify our interference with the trade. It is to be remembered that the prohibition of the trade may cause the ruin of the families engaged in it

9. *Silk Trade*.—Mr. Lee recognises the difficulty involved in any action in reference to the silk trade. He would therefore restrict the supervision of the breeding and reeling establishments to a daily removal of all debris by Municipal sweepers, which is exactly what Mr. Raghunathu Rao proposes; but the latter Officer considers the expense beyond the ordinary means of the Municipality. He reports that the reeling establishments contribute 4 annas per head; but considering the difficulty of collecting any tax on breeders, he suggests that the present rate be raised from Rs 4 to 7 a year. This increase would bring Rs. 90 the present income being Rs 116, while the extra expense Mr Raghunatha Rao proposes is Rs 240 a year. The trade is reported to be very lucrative and there is no reason why the expense should not unwillingness of the traders to allow the trade to be removed from within the town. Under these circumstances, the cost should, I think, fall on them wholly. But how this should be done, I am not just now in a position to propose. I shall do so however, very shortly.

10. Mr. Lee proposes further that the Municipality should provide suitable buildings for reeling silk. This is, however, hardly practicable, as explained by Mr. Raghunatha Rao

11. *Privy Wells*—I would draw the attention of the Government to Mr Raghunatha Rao's remarks and suggestions which I fully endorse.

12. *Surface Drainage*.—Stone drains have been constructed, but they are reported to be on a higher level than the street, which therefore, in the opinion of Mr Raghunatha Rao, requires to be raised. I shall, however, await the Executive Engineer's proposals

13 *Cattle*—Mr Lee's proposal is altogether impracticable. It is not attempted in large towns like Madras and Bangalore, much less can it be attempted in a place like Closepet where the prevailing conditions of life are rural and agricultural

14. *Ruined Houses and Walls*—I shall visit the place soon and adopt the best remedy They must of course be cleared up.

15 *Burial of the Dead*—Apparently there is but one burial ground in the town, a new one formed by Roman Catholics. If the burials are few and far between I would not interfere with it Otherwise I shall order its closure.

16. *Sewage*.—Mr. Raghunatha Rao reports that there is very little of it During my visit, I shall consider the question of a sewage farm

17. The Government has already advanced Rs 4,000, of which more than Rs. 2,500 have been repaid. Mr. Raghunatha Rao wants the balance to be remitted, which I am not prepared to recommend.

Brief report about the sanitation of Closepet Town, having regard to Mr Lee's report on the improvements to be effected and to the practical side of the question.

2. There are about 1,400 houses with a population of, in round figures, 6,000, of whom 2,000 are Muhammadans The situation of the town is gradually sloping towards the Arkavati on whose eastern bank it lies. It is divided into northern and southern blocks by the Bangalore and Mysore high road The Taluk Cutcherry and the Railway Station are situated in the latter portion.

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Proceedings of the Government of His Highness the Maharaja of Mysore, (Local Boards Branch—Municipal),—dated 20th March 1893.

3. The chief source of insanitation as pointed out by Mr. Lee arises from silk trade, drinking the river water and from the defective system of sewage, &c. Consequently, the town is periodically visited by cholera, dysentery, fever, &c., of a lingering nature. This year, cholera prevailed from 31st July to 29th August There were 100 attacks, resulting in 69 fatal cases, of which 35 were amongst Muhammadans.

4. The practicability of effecting improvements are considered in the following few lines.

5. The town derives its importance from silk trade, which is carried on, on an extensive scale, giving employment to almost the entire population, so much so, that there is scarcity of labor for any other kind of work. It is also a means of great profit for merchants.

6. There are 100 silk reels, which give work for 300 laborers at the rate of 3 men for each reeling instrument. The rearers of silk worms require Mulberry leaves every day. About 500 people of the town are employed in plucking leaves in the Mulberry gardens. A large number of laborers is also employed by the owners of Mulberry gardens in digging, planting, watering, weeding, &c.

7. From 1½ to 2 seers (weighing Rs. 26 each) of silk, valued at Rs. 5—3—0, is reeled up every day by each charki. The 100 reels in the town yield about 175 seers = 4 maunds and 15 seers, valued at Rs. 550. Besides this, the silk produced in the surrounding villages finds market at Closepet. This quantity is not less than that produced in the town Thus the daily average of silk trade in the town may be calculated at 8 maunds, valued at Rs. 1,200, taking into consideration bad and good seasons alike. The value of silk exported monthly is Rs. 56,000. At this rate the annual value, in round figures, is 5 lakhs of rupees.

8. There are about 10 or 12 merchants who buy silk every day and export it to Madras, Dharwar, Bellary, Coombakonam, Salem, Madura and other places.

9. The caterpillars, when they become ripe, sometimes escape from their webs. If so, the silk becomes wasted This is exported to England as wastage at the rate of Rs. 10 a maund. In England, silk is taken out of this wastage.

10. Most of the reelers buy ripe cocoons at the rate of Rs. 10 a maund and to prevent the escape of the worms from the web, they heat the cocoons with steam, by placing them in a basket over a pot, containing boiling water. The cocoons are then removed to the reeling shed and boiled in an open kettle, and silk is reeled from the webs, while they are being boiled.

11. The heating of the cocoons with steam is done in homesteads by the members of the reelers' family. Silk is then reeled in an open shed, either thatched or tiled. The dimensions of the sheds depend on the number of reels at work in each.

12. I have been describing the above particulars of the trade to draw attention to the fact that the very subsistence of the town depends on it and the inadvisability of placing any restriction whatever on the plea of sanitary improvements.

13. The chief evil of the trade is from the accumulated wastage, *viz.*, the boiled worms and the water in which they are boiled. If these are not removed from the reeling sheds, they give out the most offensive stink in 3 hours, fouling the surrounding atmosphere.

14. In the interests of the trade it is not desirable to remove the reeling sheds beyond the limits of the town, as it will interfere with the economy of labor, debarring the Gosha females and children from work. Every bit of the cocoon is looked upon as property and is therefore properly watched now the existing reeling sheds being close to the reelers' dwelling houses. This cannot be done if the sheds are removed far away. The process requires a good quantity of water. The proposed sheds are therefore to be built close to the river and then the river water will become worse than it is now. Further a decent accommodation for 100 charkis cannot be built under Rs. 5,000.

15. The only possible way of removing the nuisance, *i. e*, the heaps of the dead worms and the foul water, is by keeping a conservancy cart and a sweeper solely for this purpose. The wastage should be removed twice a day from every reeling shed. The present straitened state of the Municipality cannot afford to maintain the establishment. I convened a meeting of the reelers and the merchants in silk trade. They have stoutly opposed the measure of removing the reeling sheds from the town. They have consented to maintain a cart and a sweeper at the cost of Rs. 20 a month. They have executed a mutchilika promising to pay 4 annas a reel per month. But I do not think that this will last long. It is difficult to collect every month 4 annas from every reeler. I should therefore propose increasing the reel tax from Rs. 4 to 7 per annum in this town. This can be done without much opposition, considering the profit they make.

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16. Now I come to the subject of drinking water. Arkavati is in floods only for a very short period in the year and that too at different times during the rainy season. The flow is in its lowest ebb during the greater part of the year and therefore apt to be dirtied. It is an out-let for the sewage of the town. All kinds of washings, the rain water flowing from 4 grave yards in the town are emptied in it. There are Mulberry gardens on both sides of its bank and the gardens are well manured. The rain carries the manure into the river. Large quantity of excreta, which the inhabitants are accustomed to deposit on the banks, is also washed down into the river. The water is therefore condemned from every point of view. With all this, the inhabitants assert that they are accustomed to drink the river water and that they found it healthy.

17. To filter the river water by fixing perforated iron pipes filled with filtering substance, as suggested by Mr. Lee, is I suppose very costly and there is no guarantee of keeping the river water pure, lower down the filter. Another suggestion of introducing pipe water from Kottipur Tank, a mile from the town, is also not desirable, on account of great cost and insecurity of constant supply. The tank itself is very small, being quite dry for more than three months during the year. The bund and the kodi must be raised to have a large storage of water in the tank, provided that there is large catchment area.

18. In my opinion, the sinking of 4 or 5 drinking water wells in suitable places in the town at the cost of Rs. 200 each, is all that is needed, in case the inhabitants be persuaded to use the well water for drinking purposes.

19. Drains and Streets, Privy Pits, &c.,—The sewage is not considerable in the town The liquid portion being absorbed in the ground here and there. Although V shaped drains are built up in all the main streets, they are at present useless. The surface ground of the streets is 1 or 1½ feet lower than the drains. The fact is that no fresh earth has been put in the streets, perhaps per half a century. The rain water flows in streets cutting them here and there, instead of in the side drains The streets must be raised and bandled. The lanes also require gravelling. All this work will cost about Rs. 2,500 at least for the present.

20. Even in Bangalore it was found impracticable to introduce generally open surface privies instead of the privy pits in the back-yards of private houses. The nuisance on this score in this town is much less, as the men are used to go to the river sides to stool It is only the women and children that go to the pits in back-yards This evil cannot be removed unless the Municipality is prepared to entertain 6 scavengers and 2 carts for the removal of the night soil at the cost of Rs. 75 a month, *i. e.*, nearly Rs. 1,000 per annum, for the scavengers are to be imported from Bangalore.

21. It is only possible to minimise the nuisance by building half a dozen public privies and entertaining 1 cart and 2 scavengers. The building of 6 privies may cost Rs 600 The cart and the scavengers Rs. 30 a month.

22. The slaughter houses and butchers' stalls have been since removed to a large plain in the southern extremity of the town. There are only four mutton shops and 2 beef shops in the town. Three or four sheeps and a cow are killed daily. A small piece of ground for killing sheep and another for cows, should be walled round and 6 shops to be built at the cost of Rs 300. Each stall may pay a rent of 4 annas a month

23. The soil is peculiarly fitted for the growth of rank vegetation. Every vacant bit of ground, whether it is a back-yard, open ground, or a building site, is over grown with rank vegetation. It is impossible to eradicate it.

24. The following is an extract from this year's Budget of the Municipality :—

Revenue	Rs.	A.	P.
Mohatarfa	1,199	12	0
Shop tax	812	0	0
Silk reels	116	0	0
Cart tax	494	0	0
Sale of manure	19	8	0
Total .	1	4	0

Proceedings of the Government of His Highness the Maharaja of Mysore, (Local Boards Branch—Municipal),—dated 20th March 1893.

Expenses.	Rs.	A.	P.
Payment in liquidation of the loan of Rs. 4,000 from the Government ..	1,320	10	0
Establishment...	577	0	0
Lighting	184	0	0
Education	150	0	0
Midwife	60	0	0
Head Office charge	90	0	0
Sundry rewards for killing snakes, dogs and scraping out pits in river beds, &c.	99	10	0
Pay of peon and purchase of implements, &c. ...	150	0	0
Total...	2,631	4	0

25. It will be seen from the above that no money, whatever, is available either for original works or repairs.

26. It appears that there is still a balance of Rs. 1,497—8—10 due to Government. I would recommend the remission of this balance in favor of the Municipality with a grant of Rs. 2,500 to enable the Municipality to commence the improvements at once. The Municipality will then save annually Rs. 1,330—10—0 (the amount which is now being paid to the Government in liquidation of the debt) which will be advantageously applied to the improvements recommended.

No. 15301-3—L. F. 108-92, DATED, BANGALORE, 20TH MARCH 1893.

ORDER THEREON.—Considering the sanitary requirements of Closepet and the urgency for immediate action, the Government are pleased to sanction from Provincial Funds a sum of Rs. 10,000 for the trial of the experiment of conducting the water of the Arkavati river to some convenient place near the village through perforated cast-iron pipes filled with polarite. The Sanitary Engineer is requested to make the necessary provision in his Budget for 1893-94, and commence the work as soon as possible, the estimates being previously forwarded for approval. He is also requested to report without delay the probable annual cost of lifting the water into the cistern by means of a chain or other pump having no leather.

2. The Government are also pleased to remit the balance of the advance (Rs. 1,500) made to the Municipality referred to in the 17th para of the Deputy Commissioner's letter.

3. The Government agree with the Deputy Commissioner that nothing need be done at present with the potteries or oil-boiling houses within the town, but the storing of hides excepting in specified localities must be prohibited after due notice.

4. Arrangements should be made forthwith for the daily removal of all debris connected with silk trade. The establishment recommended by the Deputy Commissioner in his letter, dated 27th January 1893, No 696, may be at once entertained by him on the salaries noted in the margin, if the work cannot be given out on contract as suggested by Government in their Proceedings, dated 15th February 1893, No. 64—L. F. 108-1892. To meet the cost, the Deputy Commissioner is authorised to raise the reel tax from Rs. 4 to 7 a year.

4 Sweepers on Rs. 3 per mensem.
1 Peon on Rs. 5 per mensem.

5. The Municipality need not undertake to provide any buildings for reeling silk.

6. The Governmen are of opinion that the use of privy pits in back-yards should be stopped as soon as possible. The Municipality is authorised to employ 2 carts and 6 scavengers to remove the night-soil at a cost not exceeding Rs. 50 per mensem.

7. The other points noticed by the Deputy Commissioner do not require immediate orders.

8. The Government observe that the annual income of the Municipality according to the Budget for 1892-93 is Rs. 2,717 and the annual expenses inclusive of the cost of the ordinary *Public Works, but exclusive of the sum provided for the repayment of Government loan (Rs 1,334) which has no longer to be made, is Rs. 1,682. Thus, there is a balance of Rs 1,035 for the †improvements proposed in the preceding paragraphs. When water is brought near the town, an additional water tax will have to be imposed for the cost of lifting water. Meanwhile, the Deputy Commissioner is requested to revise the house tax and see how far the annual income may be improved. The sale of manure removed by scavengers is sure to add to the receipts.

Road repairs	...	137
Drains	...	50
Reserve	...	20
		207
† Cost of removing debris.		204
For removing night-soil.		600
		804

T. ANANDA ROW,
Chief Secretary.

To—The Deputy Commissioner, Bangalore District.
The Sanitary Engineer through the Chief Engineer of Mysore.
The Comptroller to the Government of Mysore.

Memo.

Copy to the Deputy Commissioners of other Districts.

Exd.—A.N.S.

Lib. Cash 2/6 63

OFFICE OF THE
14195
n - JUN. 93

139

From The Sanitary Engineer with the Govt of Mysore.

To The Chief Secretary, to the Dewan of Mysore

Dated, Mysore, 31st May 1893
Despatched 1st June 193
Received 3/6

Enclosures No. Nil

General No. 678
No.

Referring to Proceedings of Government No. V 15301-3 L.F. 108-92 dt 20th March 1893, Sanctioning Rs 10,000" for the Trial of the Experiment of Conducting the water of the Arkavati River to some convenient place near the village (Closepet) through perforated

polaride", has the honor to

expenditure from the above sum is to restricted
to the provision of water only, or also to

other urgent Sanitary requirements of the town.

II. The Grant appears sufficient for both purposes, and if approved the work will be entered in the Budget for 1893-94 as:—————————

"Water Supply, Drainage & Sanitation of the town of Closepett ——— Rs 10,000".

Sanitary Engineer
with the Government of
Mysore

R.R. Sh

65

MMS 5/6

VKom 6-6-93.

7/6 ES.

Sw.

Submitted for orders. There are letters for despatch

P.J 20/6/93

14203

5-6-93

From

The Sanitary Engineer
with the Govt of Mysore.

To

The Chief Secretary
to the Govt of Mysore

Dated Bly Sore 3d June 1893.

Despatched

Received 6

Enclosures No.

General No. 665

No.

This Office no: 648 dated 1st June 1893 requesting to be informed whether the Expenditure to be incurred from the Sum of Rupees 10,000, Sanctioned in Government Proceedings no: 15301-3 / L.7 108-92 dated 20.3.93 for the trial of Experiment of Conducting the water of the Arkavati River to Some Convenient place near Closepet.

also
the grant being sufficient for both purposes.

~ " ~

Has the honor to request that the above reference may be kindly considered cancelled, as the undersigned finds that a mistake has been made in addressing it to the Chief Secretary ~~instead~~ instead of to the Chief Engineer (as per para 4 of Government Proceedings no: 1925-29/320-24 dated 6.5.93) the grant in question being from Provincial Funds

Sanitary Engineer
with the Govt. of Mysore.

67

Read:-

Docket from the Deputy Sanitary Engineer dated 29th May 1893 etc 648, enquiring whether the grant of Rs 10,000 sanctioned in Joint Proceedings dated 20th March 1893 etc 15301-3 / L.J 108-92 is to be restricted to the provision of water only or also to other urgent sanitary requirements of the Cloverpett Town and stating that the grant appears sufficient for both purposes and if approved, the work will be entered in the Budget for 1893-94

2 Docket from the same officer dated 3rd June 1893 etc 6655- requesting that the foregoing communication may be considered as cancelled, as a mistake appears to have been made in addressing the communication to the Chief Engr instead of to the Chief Engineer

719 - ½ 9/7.93
L.J 108.92

Order thereon

The Proceedings dated 20th March 1893 etc 15301 3 / L.J 108-92 were cancelled

the first of the Dockets read above was properly addressed to the Chief Secy.

2 The expenditure out of the grant of Rs 10000 referred to should be restricted for the "trial of the experiment of conducting the water of the Ambavati river to some convenient place near the Closepet Town through perforated cast iron pipes filled with polarite." The necessary provision should be made for the same in the Budget for 1893 94. The attention of the Sanitary Engineer is accordingly to the concluding part of Canal after Proceedings dated 20 March 1893 and he is requested to report the probable annual cost of lifting the water into the cistern by means of a steam or other pump having no boiler

To Sanit E [illegible] Secy

(Sixty-Eight)